

## Using Glimmix And Genmod Procedures To Analyze

Informal and nontechnical, this book both explains the theory behind logistic regression, and looks at all the practical details involved in its implementation using SAS. Includes several real-world examples in full detail.

See how data science can answer the questions your business faces! Applying Data Science: Business Case Studies Using SAS, by Gerhard Svolba, shows you the benefits of analytics, how to gain more insight into your data, and how to make better decisions. In eight entertaining and real-world case studies, Svolba combines data science and advanced analytics with business questions, illustrating them with data and SAS code. The case studies range from a variety of fields, including performing headcount survival analysis for employee retention, forecasting the demand for new projects, using Monte Carlo simulation to understand outcome distribution, among other topics. The data science methods covered include Kaplan-Meier estimates, Cox Proportional Hazard Regression, ARIMA models, Poisson regression, imputation of missing values, variable clustering, and much more! Written for business analysts, statisticians, data miners, data scientists, and SAS programmers, Applying Data Science bridges the gap between high-level, business-focused books that skim on the details and technical books that only show SAS code with no business context.

Missing Data in Clinical Studies provides a comprehensive account of the problems arising when data from clinical and related studies are incomplete, and presents the reader with approaches to effectively address them. The text provides a critique of conventional and simple methods before moving on to discuss more advanced approaches. The authors focus on practical and modeling concepts, providing an extensive set of case studies to illustrate the problems described. Provides a practical guide to the analysis of clinical trials and related studies with missing data. Examines the problems caused by missing data, enabling a complete understanding of how to overcome them. Presents conventional, simple methods to tackle these problems, before addressing more advanced approaches, including sensitivity analysis, and the MAR missingness mechanism. Illustrated throughout with real-life case studies and worked examples from clinical trials. Details the use and implementation of the necessary statistical software, primarily SAS. Missing Data in Clinical Studies has been developed through a series of courses and lectures. Its practical approach will appeal to applied statisticians and biomedical researchers, in particular those in the biopharmaceutical industry, medical and public health organisations. Graduate students of biostatistics will also find much of benefit.

Abiotic stress represents the main constraint for agriculture, affecting plant growth and productivity worldwide. Yield losses in agriculture will be potentiated in the future by global warming, increasing contamination, and reduced availability of fertile land. The challenge for agriculture of the present and future is that of increasing the food supply for a continuously growing human population under environmental conditions that are deteriorating in many areas of the world. Minimizing the effects of diverse types of abiotic stresses represents a matter of general concern. Research on all topics related to abiotic stress tolerance, from understanding the stress response mechanisms of plants to developing cultivars and crops tolerant to stress, is a priority. This Special Issue is focused on the physiological and molecular characterization of crop resistance to abiotic stresses, including novel research, reviews, and opinion articles covering all aspects of the responses and mechanisms of plant tolerance to abiotic. Contributions on physiological, biochemical, and molecular studies of crop responses to abiotic stresses; the description and role of stress-responsive genes; marker-assisted screening of stress-tolerant genotypes; genetic engineering; and other biotechnological approaches to improve crop tolerance were considered.

SAS and R

Analysis of Correlated Data with SAS and R, Third Edition

Biostatistics for Animal Science, 3rd Edition

Survival Analysis Using SAS

Physiological and Molecular Characterization of Crop Resistance to Abiotic Stresses

As we stand poised on the verge of a new era of spaceflight, we must rethink every element, including the human dimension. This book explores some of the contributions of psychology to yesterday's great space race, today's orbiter and International Space Station missions, and tomorrow's journeys beyond Earth's orbit. Early missions into space were typically brief, and crews were small, often drawn from a single nation. As international cooperation in space exploration has increased over the decades, the challenges of communicating across cultural boundaries and dealing with interpersonal conflicts have become all the more important, requiring different coping skills and sensibilities than "the right stuff" expected of early astronauts. As astronauts travel to asteroids or establish a permanent colony on the Moon, with the eventual goal of reaching Mars, the duration of expeditions will increase markedly, as will the psychosocial stresses. Away from their home planet for extended times, future spacefarers will need to be increasingly self-sufficient, while simultaneously dealing with the complexities of heterogeneous, multicultural crews. "On Orbit and Beyond: Psychological Perspectives on Human Spaceflight," the second, considerably expanded edition of "Psychology of Space Exploration: Contemporary Research in Historical Perspective," provides an analysis of these and other challenges facing future space explorers while at the same time presenting new empirical research on topics ranging from simulation studies of commercial spaceflights to the psychological benefits of viewing Earth from space. This second edition includes an all new section exploring the challenges astronauts will encounter as they travel to asteroids, Mars, Saturn, and the stars, requiring an unprecedented level of autonomy. Updated essays discuss the increasingly important role of China in human spaceflight. In addition to examining contemporary psychological research, several of the essays also explicitly address the history of the psychology of space exploration. Leading contributors to the field place the latest theories and empirical findings in historical context by exploring changes in space missions over the past half century, as well as reviewing developments in the psychological sciences during the same period. The essays are innovative in their approaches and conclusions, providing novel insights for behavioral researchers and historians alike.

"This entry-level text offers clear and concise guidelines on how to select, construct, interpret, and evaluate count data. Written for researchers with little or no background in advanced statistics, the book presents treatments of all major models using numerous tables, insets, and detailed modeling suggestions. It begins by demonstrating the fundamentals of linear regression and works up to an analysis of the Poisson and negative binomial models, and to the problem of overdispersion. Examples in Stata, R, and SAS code enable readers to adapt models for their own purposes, making the text an ideal resource for researchers working in public health, ecology, econometrics, transportation, and other related fields"--

Through essays on topics including survival in extreme environments and the multicultural dimensions of exploration, readers will gain an understanding of the psychological challenges that have faced the space program since its earliest days. An engaging read for those interested in space, history, and psychology alike, this is a highly relevant read as we stand poised on the edge of a new era of spaceflight. Each essay also explicitly addresses the history of the psychology of space exploration.

If you are a researcher or student with experience in multiple linear regression and want to learn about logistic regression, Paul Allison's Logistic Regression Using SAS: Theory and Application, Second Edition, is for you! Informal and nontechnical, this book both explains the theory behind logistic regression, and looks at all the practical details involved in its implementation using SAS. Several real-world examples are included in full detail. This book also explains the differences and similarities among the many generalizations of the logistic regression model. The following topics are covered: binary logistic regression, logit analysis of contingency tables, multinomial logit analysis, ordered logit analysis, discrete-choice analysis, and Poisson regression. Other highlights include discussions on how to use the GENMOD procedure to do loglinear analysis and GEE estimation for longitudinal binary data. Only basic knowledge of the SAS DATA step is assumed. The second edition describes many new features of PROC LOGISTIC, including conditional logistic regression, exact logistic regression, generalized logit models, ROC curves, the ODDS RATIO statement (for analyzing interactions), and the EFFECTPLOT statement (for graphing nonlinear effects). Also new is coverage of PROC SURVEYLOGISTIC (for complex samples), PROC GLIMMIX (for generalized linear mixed models), PROC QLIM (for selection models and heterogeneous logit models), and PROC MDC (for advanced discrete choice models). This book is part of the SAS Press program.

Rasch Models in Health

Models for Discrete Longitudinal Data

A Practical Guide

Generalized Linear and Nonlinear Models for Correlated Data

Missing Data in Clinical Studies

Praise for the First Edition ". . . [this book] should be on the shelf of everyone interested in . . . longitudinal data analysis." --Journal of the American Statistical Association Features newly developed topics and applications of the analysis of longitudinal data Applied Longitudinal Analysis, Second Edition presents modern methods for analyzing data from longitudinal studies and now features the latest state-of-the-art techniques. The book emphasizes practical, rather than theoretical, aspects of methods for the analysis of diverse types of longitudinal data that can be applied across various fields of study, from the health and medical sciences to the social and behavioral sciences. The authors incorporate their extensive academic and research experience along with various updates that have been made in response to reader feedback. The Second Edition features six newly added chapters that explore topics currently evolving in the field, including: Fixed effects and mixed effects models Marginal models and generalized estimating equations Approximate methods for generalized linear mixed effects models Multiple imputation and inverse probability weighted methods Smoothing methods for longitudinal data Sample size and power Each chapter presents methods in the setting of applications to data sets drawn from the health sciences. New problem sets have been added to many chapters, and a related website features sample programs and computer output using SAS, Stata, and R, as well as data sets and supplemental slides to facilitate a complete understanding of the material. With its strong emphasis on multidisciplinary applications and the interpretation of results, Applied Longitudinal Analysis, Second Edition is an excellent book for courses on statistics in the health and medical sciences at the upper-undergraduate and graduate levels. The book also serves as a valuable reference for researchers and professionals in the medical, public health, and pharmaceutical fields as well as those in social and behavioral sciences who would like to learn more about analyzing longitudinal data.

Statisticians and researchers will find this book, newly updated for SAS/STAT 12.1, to be a useful discussion of categorical data analysis techniques as well as an invaluable aid in applying these methods with SAS.

A fully updated edition of this key text on mixed models, focusing on applications in medical research The application of mixed models is an increasingly popular way of analysing medical data, particularly in the pharmaceutical industry. A mixed model allows the incorporation of both fixed and random variables within a statistical analysis, enabling efficient inferences and more information to be gained from the data. There have been many recent advances in mixed modelling, particularly regarding the software and applications. This third edition of Brown and Prescott's groundbreaking text provides an update on the latest developments, and includes guidance on the use of current SAS techniques across a wide range of applications. Presents an overview of the theory and applications of mixed models in medical research, including the latest developments and new sections on incomplete block designs and the analysis of bilateral data. Easily accessible to practitioners in any area where mixed models are used, including medical statisticians and economists. Includes numerous examples using real data from medical and health research, and epidemiology, illustrated with SAS code and output. Features the new version of SAS, including new graphics for model diagnostics and the procedure PROC MCMC. Supported by a website featuring computer code, data sets, and further material. This third edition will appeal to applied statisticians working in medical research and the pharmaceutical industry, as well as teachers and students of statistics courses in mixed models. The book will also be of great value to a broad range of scientists, particularly those working in the medical and pharmaceutical areas.

Must-have study guide for the SAS® Certified Statistical Business Analyst Using SAS®9: Regression and Modeling exam! Written for both new and experienced SAS programmers, the SAS® Certification Prep Guide: Statistical Business Analysis Using SAS®9 is an in-depth prep guide for the SAS® Certified Statistical Business Analyst Using SAS®9: Regression and Modeling exam. The authors step through identifying the business question, generating results with SAS, and interpreting the output in a business context. The case study approach uses both real and simulated data to master the content of the certification exam. Each chapter also includes a quiz aimed at testing the reader's comprehension of the material presented. Major topics include: ANOVA Linear Regression Logistic Regression Inputs for Predictive Modeling Model Performance For those new to statistical topics or those needing a review of statistical foundations, this book also serves as an excellent reference guide for understanding descriptive and inferential statistics. Appendices can be found here.

Applying Data Science

Data Management, Statistical Analysis, and Graphics, Second Edition

Generalized Linear Models for Insurance Data

Modern Concepts, Methods and Applications

SAS Programming for R Users

New and extensively updated for SAS 9 and later, this work provides cutting-edge methods, specialized macros, and proven best bet procedures. The book also discusses the pitfalls and advantages of various methods, thereby helping readers to decide which is the most appropriate for their purposes. 644 pp. Pub. 7/11.

An Up-to-Date, All-in-One Resource for Using SAS and R to Perform Frequent Tasks The first edition of this popular guide provided a path between SAS and R using an easy-to-understand, dictionary-like approach. Retaining the same accessible format, SAS and R: Data Management, Statistical Analysis, and Graphics, Second Edition explains how to easily perform an analytical task in both SAS and R, without having to navigate through the extensive, idiosyncratic, and sometimes unwieldy software documentation. The book covers many common tasks, such as data management, descriptive summaries, inferential procedures, regression analysis, and graphics, along with more complex applications. New to the Second Edition This edition now covers RStudio, a powerful and easy-to-use interface for R. It incorporates a number of additional topics, including using application program interfaces (APIs), accessing data through database management systems, using reproducible analysis tools, and statistical analysis with Markov chain Monte Carlo (MCMC) methods and finite mixture models. It also includes extended examples of simulations and many new examples. Enables Easy Mobility between the Two Systems Through the extensive indexing and cross-referencing, users can directly find and implement the material they need. SAS users can look up tasks in the SAS index and then find the associated R code while R users can benefit from the R index in a similar manner. Numerous example analyses demonstrate the code in action and facilitate further exploration. The datasets and code are available for download on the book's website.

Pigs have a strong motivation to explore and root. In conventional pig husbandry systems, this need is difficult to fulfil, unless adequate enrichment materials are provided. This book summarises how enrichment strategies for pigs have evolved over the last few decades in different countries and provides a vast array of possibilities to enhance the exploratory needs of pigs. The role of enrichment material on avoidance of tail biting outbreaks or as an element triggering positive emotions in pigs is also discussed.

The family of statistical models known as Rasch models started with a simple model for responses to questions in educational tests presented together with a number of related models that the Danish mathematician Georg Rasch referred to as models for measurement. Since the beginning of the 1950s the use of Rasch models has grown and has spread from education to the measurement of health status. This book contains a comprehensive overview of the statistical theory of Rasch models. Part 1 contains the probabilistic definition of Rasch models, Part 2 describes the estimation of item and person parameters, Part 3 concerns the assessment of the data-model fit of Rasch models, Part 4 contains applications of Rasch models, Part 5 discusses how to develop health-related instruments for Rasch models, and Part 6 describes how to perform Rasch analysis and document results.

Environmental Enrichment of Pigs

Categorical Data Analysis Using SAS, Third Edition

Psychological Perspectives on Human Spaceflight

On Orbit and Beyond

Modeling Count Data

Generalized Linear Mixed Models: Modern Concepts, Methods and Applications presents an introduction to linear modeling using the generalized linear mixed model (GLMM) as an overarching conceptual framework. For readers new to linear models, the book helps them see the big picture. It shows how linear models fit with the rest of the core statistics curriculum and points out the major issues that statistical modelers must consider. Along with describing common applications of GLMMs, the text introduces the essential theory and main methodology associated with linear models that accommodate random model effects and non-Gaussian data. Unlike traditional linear model textbooks that focus on normally distributed data, this one adopts a generalized mixed model approach throughout: data for linear modeling need not be normally distributed and effects may be fixed or random. With numerous examples using SAS® PROC GLIMMIX, this book is ideal for graduate students in statistics, statistics professionals seeking to update their knowledge, and researchers new to the generalized linear model thought process. It focuses on data-driven processes and provides context for extending traditional linear model thinking to generalized linear mixed modeling. See Professor Stroup discuss the book.

The GLM procedure uses the method of least squares to fit general linear models. Among the statistical methods available in PROC GLM are regression, analysis of variance, analysis of covariance, multivariate analysis of variance, and partial correlation. This title is also available online.

Edward Vonesh's Generalized Linear and Nonlinear Models for Correlated Data: Theory and Applications Using SAS is devoted to the analysis of correlated response data using SAS, with special emphasis on applications that require the use of generalized linear models or generalized nonlinear models. Written in a clear, easy-to-understand manner, it provides applied statisticians with the necessary theory, tools, and understanding to conduct complex analyses of continuous and/or discrete correlated data in a longitudinal or clustered data setting. Using numerous and complex examples, the book emphasizes real-world applications where the underlying model requires a nonlinear rather than linear formulation and compares and

*contrasts the various estimation techniques for both marginal and mixed-effects models. The SAS procedures MIXED, GENMOD, GLIMMIX, and NLMIXED as well as user-specified macros will be used extensively in these applications. In addition, the book provides detailed software code with most examples so that readers can begin applying the various techniques immediately. This book is part of the SAS Press program.*

*SAS Programming for R Users, based on the free SAS Education course of the same name, is designed for experienced R users who want to transfer their programming skills to SAS. Emphasis is on programming and not statistical theory or interpretation. You will learn how to write programs in SAS that replicate familiar functions and capabilities in R. This book covers a wide range of topics including the basics of the SAS programming language, how to import data, how to create new variables, random number generation, linear modeling, Interactive Matrix Language (IML), and many other SAS procedures. This book also explains how to write R code directly in the SAS code editor for seamless integration between the two tools. Exercises are provided at the end of each chapter so that you can test your knowledge and practice your programming skills.*

*Exploring Modern Regression Methods Using SAS Statistical Business Analysis Using SAS9 Applied Survey Data Analysis*

*Logistic Regression Introduction and Basic Applications*

The linear mixed model has become the main parametric tool for the analysis of continuous longitudinal data, as the authors discussed in their 2000 book. Without putting too much emphasis on software, the book shows how the different approaches can be implemented within the SAS software package. The authors received the American Statistical Association’s Excellence in Continuing Education Award based on short courses on longitudinal and incomplete data at the Joint Statistical Meetings of 2002 and 2004.

Easy to read and comprehensive, Survival Analysis Using SAS: A Practical Guide, Second Edition, by Paul D. Allison, is an accessible, data-based introduction to methods of survival analysis. Researchers who want to analyze survival data with SAS will find just what they need with this fully updated new edition that incorporates the many enhancements in SAS procedures for survival analysis in SAS 9. Although the book assumes only a minimal knowledge of SAS, more experienced users will learn new techniques of data input and manipulation. Numerous examples of SAS code and output make this an eminently practical book, ensuring that even the uninitiated become sophisticated users of survival analysis. The main topics presented include censoring, survival curves, Kaplan-Meier estimation, accelerated failure time models, Cox regression models, and discrete-time analysis. Also included are topics not usually covered in survival analysis books, such as time-dependent covariates, competing risks, and repeated events. Survival Analysis Using SAS: A Practical Guide, Second Edition, has been thoroughly updated for SAS 9, and all figures are presented using ODS Graphics. This new edition also documents major enhancements to the STRATA statement in the LIFETEST procedure; includes a section on the PROBPLOT command, which offers graphical methods to evaluate the fit of each parametric regression model; introduces the new BAYES statement for both parametric and Cox models, which allows the user to do a Bayesian analysis using MCMC methods; demonstrates the use of the counting process syntax as an alternative method for handling time-dependent covariates; contains a section on cumulative incidence functions; and describes the use of the new GLIMMIX procedure to estimate random-effects models for discrete-time data. This book is part of the SAS Press program. This book explores some of the contributions of psychology to yesterday’s great space race, today’s orbiter and International Space Station missions, and tomorrow’s journeys beyond Erath’s orbit. It provides an analysis of the challenges facing future space explorers while at the same time presenting new empirical research on topics ranging from simulation studies of commercial spaceflights to the psychological benefits of viewing Earth from space.

Discover the power of mixed models with SAS. Mixed models—now the mainstream vehicle for analyzing most research data—are part of the core curriculum in most master’s degree programs in statistics and data science. In a single volume, this book updates both SAS® for Linear Models, Fourth Edition, and SAS® for Mixed Models, Second Edition, covering the latest capabilities for a variety of applications featuring the SAS GLIMMIX and MIXED procedures. Written for instructors of statistics, graduate students, scientists, statisticians in business or government, and other decision makers, SAS® for Mixed Models is the perfect entry for those with a background in two-way analysis of variance, regression, and intermediate-level use of SAS. This book expands coverage of mixed models for non-normal data and mixed-model-based precision and power analysis, including the following topics: Random-effect-only and random-coefficients models Multilevel, split-plot, multilocation, and repeated measures models Hierarchical models with nested random effects Analysis of covariance models Generalized linear mixed models This book is part of the SAS Press program.

*Fixed Effects Regression Methods for Longitudinal Data Using SAS Multiple Comparisons and Multiple Tests Using SAS, Second Edition*

*Psychology of Space Exploration: Contemporary Research in Historical Perspective Special Collection*

*Theory and Application, Second Edition*

Glenn Walker and Jack Shostak’s Common Statistical Methods for Clinical Research with SAS Examples, Third Edition, is a thoroughly updated edition of the popular introductory statistics book for clinical researchers. This new edition has been extensively updated to include the use of ODS graphics in numerous examples as well as a new emphasis on PROC MIXED. Straightforward and easy to use as either a text or a reference, the book is full of practical examples from clinical research to illustrate both statistical and SAS methodology. Each example is worked out completely, step by step, from the raw data. Common Statistical Methods for Clinical Research with SAS Examples, Third Edition, is an applications book with minimal theory. Each section begins with an overview helpful to nonstatisticians and then drills down into details that will be valuable to statistical analysts and programmers. Further details, as well as bonus information and a guide to further reading, are presented in the extensive appendices. This text is a one-source guide for statisticians that documents the use of the tests used most often in clinical research, with assumptions, details, and some tricks—all in one place. This book is part of the SAS Press program.

Statistics is a subject of many uses and surprisingly few effective practitioners. The traditional road to statistical knowledge is blocked, for most, by a formidable wall of mathematics. The approach in An Introduction to the Bootstrap avoids that wall. It arms scientists and engineers, as well as statisticians, with the computational techniques they need to analyze and understand complicated data sets.

Fixed Effects Regression Methods for Longitudinal Data Using SAS, written by Paul Allison, is an invaluable resource for all researchers interested in adding fixed effects regression methods to their tool kit of statistical techniques. First introduced by economists, fixed effects methods are gaining widespread use throughout the social sciences. Designed to eliminate major biases from regression models with multiple observations (usually longitudinal) for each subject (usually a person), fixed effects methods essentially offer control for all stable characteristics of the subjects, even characteristics that are difficult or impossible to measure. This straightforward and thorough text shows you how to estimate fixed effects models with several SAS procedures that are appropriate for different kinds of outcome variables. The theoretical background of each model is explained, and the models are then illustrated with detailed examples using real data. The book contains thorough discussions of the following uses of SAS procedures: PROC GLM for estimating fixed effects linear models for quantitative outcomes, PROC LOGISTIC for estimating fixed effects logistic regression models, PROC PHREG for estimating fixed effects Cox regression models for repeated event data, PROC GENMOD for estimating fixed effects Poisson regression models for count data, and PROC CALIS for estimating fixed effects structural equation models. To gain the most benefit from this book, readers should be familiar with multiple linear regression, have practical experience using multiple regression on real data, and be comfortable interpreting the output from a regression analysis. An understanding of logistic regression and Poisson regression is a plus. Some experience with SAS is helpful, but not required.

Highly recommended by the Journal of Official Statistics, The American Statistician, and other journals, Applied Survey Data Analysis, Second Edition provides an up-to-date overview of state-of-the-art approaches to the analysis of complex sample survey data. Building on the wealth of material on practical approaches to descriptive analysis and regression modeling from the first edition, this second edition expands the topics covered and presents more step-by-step examples of modern approaches to the analysis of survey data using the newest statistical software. Designed for readers working in a wide array of disciplines who use survey data in their work, this book continues to provide a useful framework for integrating more in-depth studies of the theory and methods of survey data analysis. An example-driven guide to the applied statistical analysis and interpretation of survey data, the second edition contains many new examples and practical exercises based on recent versions of real-world survey data sets. Although the authors continue to use Stata for most examples in the text, they also continue to offer SAS, SPSS, SUDAAN, R, WesVar, IVEware, and Mplus software code for replicating the examples on the book’s updated website.

*Pharmaceutical Statistics Using SAS*

*Using SAS for Data Management, Statistical Analysis, and Graphics*

*Logistic Regression Using SAS*

*SAS for Mixed Models*

*Applied Mixed Models in Medicine*

*This special collection of SAS Global Forum papers demonstrates new and enhanced capabilities and applications of lesser-known SAS/STAT and SAS Viya procedures for regression models. The goal here is to raise awareness of current valuable SAS/STAT content of which the user may not be aware. Also available free as a PDF from sas.com/books.*

*Analysis of Clinical Trials Using SAS®: A Practical Guide, Second Edition bridges the gap between modern statistical methodology and real-world clinical trial applications. Tutorial material and step-by-step instructions illustrated with examples from actual trials serve to define relevant statistical approaches, describe their clinical trial applications, and implement the approaches rapidly and efficiently using the power of SAS. Topics reflect the International Conference on Harmonization (ICH) guidelines for the pharmaceutical industry and address important statistical problems encountered in clinical trials. Commonly used methods are covered, including dose-escalation and dose-finding methods that are applied in Phase I and Phase II clinical trials, as well as important trial designs and analysis strategies that are employed in Phase II and Phase III clinical trials, such as multiplicity adjustment, data monitoring, and methods for handling incomplete data. This book also features recommendations from clinical trial experts and a discussion of relevant regulatory guidelines. This new edition includes more examples and case studies, new approaches for addressing statistical problems, and the following new technological updates: SAS procedures used in group sequential trials (PROC SEQDESIGN and PROC SEQTTEST) SAS procedures used in repeated measures analysis (PROC GLIMMIX and PROC GEE) macros for implementing a broad range of randomization-based methods in clinical trials, performing complex multiplicity adjustments, and investigating the design and analysis of early phase trials (Phase I dose-escalation trials and Phase II dose-finding trials) Clinical statisticians, research scientists, and graduate students in biostatistics will greatly benefit from the decades of clinical research experience and the ready-to-use SAS macros compiled in this book.*

*Interpersonal phenomena such as attachment, conflict, person perception, learning, and influence have traditionally been studied by examining individuals in isolation, which falls short of capturing their truly interpersonal nature. This book offers state-of-the-art solutions to this age-old problem by presenting methodological and data-analytic approaches useful in investigating processes that take place among dyads: couples, coworkers, parent and child, teacher and student, or doctor and patient, to name just a few. Rich examples from psychology and across the behavioral and social sciences help build the researcher’s ability to conceptualize relationship processes; model and test for actor effects, partner effects, and relationship effects; and model and control for the statistical interdependence that can exist between partners. The companion website provides clarifications, elaborations, corrections, and data and files for each chapter.*

*An Up-to-Date, All-in-One Resource for Using SAS and R to Perform Frequent TasksThe first edition of this popular guide provided a path between SAS and R using an easy-to-understand, dictionary-like approach. Retaining the same accessible format, SAS and R: Data Management, Statistical Analysis, and Graphics, Second Edition explains how to easily p*

*A Self-Learning Text*

*Common Statistical Methods for Clinical Research with SAS Examples, Third Edition*

*SAS Certification Prep Guide*

*Analysis of Clinical Trials Using SAS*

*An Introduction to the Bootstrap*

This is the third edition of this text on logistic regression methods, originally published in 1994, with its second e- tion published in 2002. As in the first two editions, each chapter contains a pres- tation of its topic in “lecture?book” format together with objectives, an outline, key formulae, practice exercises, and a test. The “lecture book” has a sequence of illust- tions, formulae, or summary statements in the left column of each page and a script (i. e. , text) in the right column. This format allows you to read the script in conjunction with the illustrations and formulae that highlight the main points, formulae, or examples being presented. This third edition has expanded the second edition by adding three new chapters and a modified computer appendix. We have also expanded our overview of mod- ing strategy guidelines in Chap. 6 to consider causal d- grams. The three new chapters are as follows: Chapter 8: Additional Modeling Strategy Issues Chapter 9: Assessing Goodness of Fit for Logistic Regression Chapter 10: Assessing Discriminatory Performance of a Binary Logistic Model: ROC Curves In adding these three chapters, we have moved Chaps. 8 through 13 from the second edition to follow the new chapters, so that these previous chapters have been ren- bered as Chaps. 11–16 in this third edition.

Introduces a range of data analysis problems encountered in drug development and illustrates them using case studies from actual pre-clinical experiments and clinical studies. Includes a discussion of methodological issues, practical advice from subject matter experts, and review of relevant regulatory guidelines.

Quick and Easy Access to Key Elements of Documentation Includes worked examples across a wide variety of applications, tasks, and graphics A unique companion for statistical coders, Using SAS for Data Management, Statistical Analysis, and Graphics presents an easy way to learn how to perform an analytical task in SAS, without having to navigate through the extensive, idiosyncratic, and sometimes unwieldy software documentation. Organized by short, clear descriptive entries, the book covers many common tasks, such as data management, descriptive summaries, inferential procedures, regression analysis, multivariate methods, and the creation of graphics. Through the extensive indexing, cross-referencing, and worked examples in this text, users can directly find and implement the material they need. The text includes convenient indices organized by topic and SAS syntax. Demonstrating the SAS code in action and facilitating exploration, the authors present example analyses that employ a single data set from the HELP study. They also provide several case studies of more complex applications. Data sets and code are available for download on the book’s website. Helping to improve your analytical skills, this book lucidly summarizes the features of SAS most often used by statistical analysts. New users of SAS will find the simple approach easy to understand while more expert SAS programmers will appreciate the invaluable source of task-oriented information.

Previously known as Statistical Methods for Health Sciences, this bestselling resource is one of the first books to discuss the methodologies used for the analysis of clustered and correlated data. While the fundamental objectives of its predecessors remain the same, Analysis of Correlated Data with SAS and R, Third Edition incorporates several additions that take into account recent developments in the field. New to the Third Edition The introduction of R codes for almost all of the numerous examples solved with SAS A chapter devoted to the modeling and analyzing of normally distributed variables under clustered sampling designs A chapter on the analysis of correlated count data that focuses on over-dispersion Expansion of the analysis of repeated measures and longitudinal data when the response variables are normally distributed Sample size requirements relevant to the topic being discussed, such as when the data are correlated because the sampling units are physically clustered or because subjects are observed over time Exercises at the end of each chapter to enhance the understanding of the material covered An accompanying CD-ROM that contains all the data sets in the book along with the SAS and R codes Assuming a working knowledge of SAS and R, this text provides the necessary concepts and applications for analyzing clustered and correlated data.

*Theory and Applications Using SAS*

*A Practical Guide, Second Edition*

*Business Case Studies Using SAS*

*Pharmacokinetic-Pharmacodynamic Modeling and Simulation*

*Generalized Linear Mixed Models*

This is the only book actuaries need to understand generalized linear models (GLMs) for insurance applications. GLMs are used in the insurance industry to support critical decisions. Until now, no text has introduced GLMs in this context or addressed the problems specific to insurance data. Using insurance data sets, this practical, rigorous book treats GLMs, covers all standard exponential family distributions, extends the methodology to correlated data structures, and discusses recent developments which go beyond the GLM. The issues in the book are specific to insurance data, such as model selection in the presence of large data sets and the handling of varying exposure times. Exercises and data-based practicals help readers to consolidate their skills, with solutions and data sets given on the companion website. Although the book is package-independent, SAS code and output examples feature in an appendix and on the website. In addition, R code and output for all the examples are provided on the website.

This is a second edition to the original published by Springer in 2006. The comprehensive volume takes a textbook approach systematically developing the field by starting from linear models and then moving up to generalized linear and non-linear mixed effects models. Since the first edition was published the field has grown considerably in terms of maturity and technicality. The second edition of the book therefore considerably expands with the addition of three new chapters relating to Bayesian models, Generalized linear and nonlinear mixed effects models, and Principles of simulation. In addition, many of the other chapters have been expanded and updated.

Designed to cover techniques for analysis of data in the animal sciences, this popular textbook provides an overview of the basic principles of statistics enabling the subsequent applications to be carried out with familiarity and understanding. Each chapter begins by introducing a problem with practical questions, followed by a brief theoretical background. Most topics are followed up with numerical examples to illustrate the methods described using data-sets from animal sciences and related fields. The same examples are then solved using the SAS software package. Written primarily for students and researchers in animal sciences, the text is also useful for those studying agricultural, biological, and veterinary sciences.

*Applied Longitudinal Analysis*

*Dyadic Data Analysis*

*The GLM Procedure (Book Excerpt)*

*SAS/STAT 9. 22 User’s Guide*